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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,088	08/20/2003	Fujio Akahane	Q77070	4967
23373	7590	05/17/2006		EXAMINER
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			CRANE, DANIEL C	
			ART UNIT	PAPER NUMBER
			3725	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/644,088	AKAHANE ET AL.
	Examiner Daniel C. Crane	Art Unit 3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 April 2006.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4 and 6-18 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 and 6-11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **REJECTION OF CLAIMS ON FORMAL MATTERS**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 and 6-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure fails to indicate that the deformation absorber is performed “before any plastic working is performed in the first region”. There is no indication as to the status of the plate prior to forming the deformation absorbers and the formation of any work within the first region. Accordingly, specifying a characteristic of the plate within the first region at a point in time goes beyond the original disclosure. For that matter, the plate, during preliminary manufacturing, could have been rolled in the first region. Thus, to specify that no plastic working is performed in the first region at a specific step within the method constitutes new matter.

## **REJECTION OF CLAIMS OVER PRIOR ART**

Claims 1-4 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeglinski (4,425,777) in view of Rooney (5,144,709). Jeglinski discloses the basic method of manufacturing a liquid ejection head having chambers (funnel shaped region) and nozzles

communicating with the chambers where the manufacturing includes a forging die 2. See column 3, last full paragraph, in Jeglinski where the plate is formed with a plurality of chambers and corresponding nozzles. It is well recognized in the progressive die art to provide a combination of reference holes and deformation absorbers so as to accommodate the shaping operation as the workpiece is sequentially fed through the dies. Rooney shows that this is known in the art by providing the metal plate 42 with reference parts 48, recess portions 85 (see Figure 3) at a first region and deformation absorbers 66, 72 in the form of cutouts at a second region between the first region and the reference part. Deformation absorbers 66, 72 are established in that cutouts cooperate with dog-bone inserts 82 inserted into the cutouts 66, 72. Aperture 50 is shown to be produced in the first region prior to the formation of the deformation absorbers 66, 72. Thus, the first region is cut or sheared prior to the formation of the deformation absorbers but not plastically worked. It would have been obvious to the skilled artisan at the time of the invention to have modified Jeglinski's process by continuously forming the liquid ejection head in a progressive die system while using reference parts and deformation absorbers using the concepts taught by Rooney so as to facilitate accurate shaping and centering of the product in the progressive dies. As to claim 3, applicant's attention is directed to column 5, lines 57-62, of Rooney where the shape of the cutouts (deformation absorbers) in conjunction with the dog bone inserts 82 (also establishing the deformation absorbers) absorbs any deformation imparted during the cavity 85 forming to prevent the flow of metal into the reference part. As to claim 6, it is the examiner's position that the sequence of cutting operations relating to the reference part and deformation absorber would have been a matter of choice in the manufacture of the strip material. Note page 6, lines 15-16, where this is a matter of preference. Rooney shows that the

reference part 48 is cut prior to the formation of the deformation absorber 66, 72 (see Figure 2). Since the sequence does not affect the overall manufacture of the part, it is maintained that it is dependent upon desired machine design. This also applies to the limitation of claim 11 where the skilled artisan would select various dimensions based upon desired structural needs in the ink jet and adjust the spacing between the recess portions as needed.

### **RESPONSE TO APPLICANTS' COMMENTS**

Applicants' comments have been carefully considered. Contrary to applicant's comments, no plastic working is performed in the first region of Rooney's plate even though aperture 50 is formed in the first region prior to the forming of the deformation absorbers 66, 72. The term "plastic working" involves deformation since the material being shaped must be plastically worked. It is maintained that shearing or cutting, as proposed by Rooney where the aperture 50 is formed, does not involve a "plastic working" operation because the plate is not deformed. Accordingly, applicant's limitation that the step of "providing the deformation absorber is performed before any plastic working is performed in the first region" is met by Rooney because plastic working or deforming is accomplished at the stage where the recess 85 is produced, which is after the operation of forming the deformation absorber 66, 72.

### **WITHDRAWAL OF NONELECTED CLAIMS**

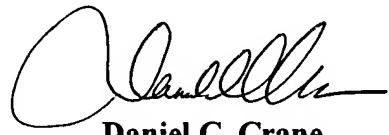
Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 15, 2004.

## INQUIRIES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner D. Crane whose telephone number is **(571) 272-4516**. The examiner's office hours are 6:30AM-5:00PM, Tuesday through Friday. The examiner's supervisor, Mr. Derris Banks, can be reached at **(571) 272-4419**.

Documents related to the instant application may be submitted directly to Group 3700 by facsimile transmission at all times. Applicant(s) is(are) reminded to clearly mark any transmission as "DRAFT" if it is not to be considered as an official response. The Group 3725 Facsimile Center number is **(571) 273-8300**. The Examiner's FAX number is **(571) 273-4516**.

DCCrane  
May 10, 2006



**Daniel C. Crane**  
Primary Patent Examiner  
Group Art Unit 3725